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## **Service Infusion as Agile Incrementalism in Action**

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## Service Infusion as Agile Incrementalism in Action

### Abstract

As product markets mature, firms are increasingly offering industrial services, in order to differentiate themselves and remain competitive. The general strategic view emerging from the services literature is that service infusion in manufacturing industries takes a somewhat unidirectional path from products to service provision. Based on in-depth case study research in the materials handling industry and drawing on Lindblom's (1979) concept of disjointed incrementalism, this study shows how service infusion often takes place in small steps without clearly directed efforts. The study identifies elements of incrementalism central to service infusion and demonstrates how a successful service strategy involves continuous modifications, adaptability, the seizing of ad hoc innovation, a continuous recalibration of opportunities, and the management of intertwining goals. The concept of *agile incrementalism* is introduced which aptly describes this contingency approach. The article contributes to a multifaceted and nuanced picture of service strategy and the service-infusion process.

Keywords: service infusion, service transition, agile incrementalism, strategy

## INTRODUCTION

As industries mature, commoditization tends to erode the competitive differential potential of product markets, and manufacturing firms increasingly turn to the provision of industrial services to stay competitive and avoid a deteriorating financial position (Mathieu, 2001; Neu and Brown, 2008; Potts, 1988; Wilson, Boström, and Lundin, 1999). In manufacturing markets, services have often been regarded as an add-on to the core product offering and a necessary evil for future product sales (Robinson, Clarke-Hill, and Clarkson, 2002). However, a broader view of industrial services includes an extensive range of service activities that relate directly to the industry's products (e.g., maintenance, repair, and overhaul) and production processes (e.g., process optimization). These can either be sold separately from the industry's products (e.g., service level agreement) or in a product-service bundle (e.g., rental agreement). In the service management and industrial marketing literature, service infusion is often a transition taken in a few large steps, moving from transactional, commoditized product sales to relational service and solution provision (Gebauer and Friedli, 2005; Oliva and Kallenberg, 2003; Penttinen and Palmer, 2007; Wise and Baumgartner, 1999). However, a more nuanced picture of service infusion is emerging that sees migration paths towards service infusion as *incremental*, rather than radical and unidirectional (Matthyssens and Vandenbempt, 2008).

An incremental approach to the service infusion phenomenon conforms to Lindblom's (1959; 1979) view on strategic decision-making processes. In complex situations, such as when manufacturing firms turn to the provision of services, it is not always possible to have clear objectives, explicit evaluations, comprehensive overviews, and a quantification of values for mathematical analysis. Instead, a remedial, serial, and exploratory process that continually builds from the current situation step-by-step, in relatively small degrees, could be a more realistic approach for the manufacturer to pursue. Lindblom (1979) calls this approach *disjointed*

*incrementalism*. However, the applicability of Lindblom's (1959) seminal paper and the discussion that followed (e.g., Balzer, 1979; Forester, 1984; Power, 1980) has not been explored comprehensively in the context of business strategy. Instead, the application of the concept is almost entirely concerned with public administration, planning, and policy studies. Hence, service infusion in manufacturing industries is a contemporary strategic reorientation that could benefit from such insight, while extending the scope of Lindblom's concepts.

The purpose of this article is to explore the applicability of Lindblom's (1979) concept of disjointed incrementalism in strategy-making processes related to service management in a manufacturing context and focuses on the prevalence of the concept's tenets as central to the strategic development process of service infusion. The article contributes to a more multifaceted and nuanced picture of service strategy and the service-infusion process in globally competitive environments. Contrary to established views of service infusion as a well-defined, rational process, this article argues that predictability of outcomes and choice of strategic directions are in fact not clear-cut in the service-infusion process. The concept of *agile incrementalism* is proposed, to describe the remedial and emergent contingency approach prevalent in service-infusion processes. Thus, a successful service infusion strategy involves continuous modifications and adaptability, seizing and calibrating opportunities, and management of intertwining goals.

## **AN INCREMENTALIST APPROACH TO BUSINESS STRATEGY**

Lindblom (1959) introduces his concepts of scientific muddling and disjointed incrementalism with a notion that policy making, and in a similar vein, strategy development, is not a rational and logical process (means) from point A to result B (ends), but requires step-by-step efforts that managers must constantly align to a variety of changes. This process is disjointed because policy

makers cannot foresee all of the problems that may occur, but must deal with them by introducing a design that is incomplete for their strategic and cognitive processes. At the time Lindblom wrote his seminal paper (and the 1979 follow-up), the prevailing view was that the process of making business strategy was equivalent to a sequential chain of formulation and implementation; that is, a planning perspective (Mintzberg, Ahlstrand, and Lampel, 1998). However, the rationale underlying this view is dubious and neglects central issues like cognitive boundedness and the importance of political, social, and cultural dimensions (Johnson, 1992). Furthermore, contemporary strategy making evolves in environments described as dynamic (Eisenhardt and Martin, 2000), fast-paced, globally competitive (Teece, 2007), chaotic (Brown and Eisenhardt, 1998), and hyper-competitive (D'Aveni, 1995). These conditions seem to give contemporary strategy making its disjointed character and place different demands on strategic decision-making processes in terms of adaptation and agility. Surprisingly, the Lindblom approach is used in limited instances in business practice, or is seldom referred to in regard to strategic processes in business.

Quinn (1978; 1982) agrees with the incremental nature of the strategy making process, but not with its disjointedness. His so-called logical incrementalism is not muddling, in the sense that most people use that word. Incrementalism is conscious, purposeful, proactive, constitutes good management, and has an underlying logic that knits the strategies together (logical incrementalism). However, Mintzberg (1994) notes that strategies cannot be designed without allowing for and capturing what is emergent and unfolding in contemporary situations, and this leads to the concept of emergence in the strategy-making process. Thus, strategizing always has emergent parts, which force managers to change course and elements of the strategy, as the environment changes. Arguably, this is in line with Lindblom's (1979) notion of designed incompleteness, which forms the basic concept of disjointed incrementalism.

In complex situations, it is impossible for managers to forecast the breadth of all possible activities and outcomes (Lindblom, 1959; March and Simon, 1963). because bounded managerial rationality filters the available information. Lindblom argues that managers can only comprehend and analyze a specific set of aspects circumscribed by the operating environment and previous choices. Possible solutions are thus path-dependent, as the possible set of strategic actions is limited to the actions located in the neighboring decision space. Accordingly, future strategic choices are incremental to previous choices. Successful service strategies are difficult to implement in manufacturing firms due to path dependencies that high status and excellence in product-related areas create. Thus, the managerial motivation to extend the service business tends to be a process that grows organically (Gebauer and Fleisch, 2007).

Forester (1984) suggests that bounded rationality may itself be quite variable. Some bounds or constraints may be politically structured, some may be inevitable and unchangeable elements of the human condition and others may be unavoidable, where “the analysis of the decision-making situation itself is essential to the choice or guidance of action in that situation” (p. 25). At one extreme, actors are rational, or at least fallible due to cognitive limits (Simon, 1956), problems are well defined, information is perfect, and time is unlimited. When cognitive limits are recognized, a viable strategy is to optimize/solve, or satisfy/hedge and lower expectations. Structural inequality and distortions are at the other extreme, with structurally skewed ideological problem definitions and ideological (mis)information. The practical strategy is then to anticipate/counteract and organize/democratize. Forester (1984) places Lindblom’s disjointed incrementalism closer to the latter, recognizing bounds due to pluralist conflict, actors in competing interest groups, multiple problem definitions, and contested information. In pluralist conflict, interests differ along interest-group lines and managers are routinely confronted by

heterogeneous and incongruous claims of competing interests, articulated by competing actors. A viable strategy in this case is to bargain/increment and adjust/check (Forester, 1984).

### **Disjointed Incrementalism**

In the form of ten tenets (see Table 1), Hirschman and Lindblom (1962) and Lindblom (1979) introduce and describe the concept of disjointed incrementalism and its consequences for organizations and managers. These ten tenets offer an analytical framework for a better understanding of how organizations and managers navigate through strategic changes within complex contexts and in new arenas.

Table 1 here.

Studies of service infusion in manufacturing firms generally view the strategy development process as rational, predictable, and limited to a predefined set of transition paths (Oliva and Kallenberg, 2003; Penttinen and Palmer, 2007; Wise and Baumgartner, 1999) or service maneuvers (Mathieu, 2001). Accordingly, exploring the concept of disjointed incrementalism and its tenets has the potential to bridge a gap in current theory. For instance, there is often an implicit belief that managers can rationally navigate the service-infusion process. Business researchers generally regard service strategy as rather static, and therefore do not capture the dynamic, process-oriented nature of strategic change (Gebauer, Fischer, and Fleisch, 2010). Successful service infusion is attributed to “a deliberate, systematic and well-structured transformation effort” (Oliva and Kallenberg, 2003, p. 170) and to specific success factors that provide guidance for managers “seeking to design a successful transition process” (Gebauer and Friedli, 2005, p. 76). There are various two-dimensional positioning frameworks proposed as tools enabling



managers to identify the firm's current position and to evaluate potential moves (e.g., Kowalkowski, Brehmer, and Kindström, 2009; Penttinen and Palmer, 2007).

However, in more recent studies, Matthyssens and Vandenbempt (2008) find that an incremental transition might be preferable to quantum leaps, and Gebauer and Fleisch (2007) show that overambitious objectives for service infusion strategies often lead to negative results. Instead, Gebauer and Fleisch (2007) argue that the incentive to extend the service business is a process that needs to grow incrementally in manufacturing firms, where managerial motivation is central. Thus, both in the light of a more complex and emerging multifaceted picture of service-infusion processes and the applicability of the concept of disjointed incrementalism in the context of public administration and policy making, the prevalence of the concept in service-infusion processes is worth examining. Even if not all of the concept's characteristics are present in all contemporary situations (Wilson, 2009), no prior studies of service infusion in manufacturing approach the phenomenon from an incremental perspective, therefore it is not clear which aspects of the tenets are present in service infusion. Thus, in order to obtain a comprehensive understanding of the prevalence of incrementalism, an exploration of the pertinence of all ten tenets is appropriate.

## **RESEARCH METHOD**

This article reports on an in-depth, exploratory case study conforming to Woodside and Wilson (2003). Woodside and Wilson (2003) consider case studies an approach that enables the researcher to attain a deep understanding of thinking–doing processes in industrial marketing, which is the central focus of this study. The empirical evidence comes from Toyota Materials Handling Europe (TMHE) and BT Industries (which merged with Toyota Industries to form

TMHE in 2005), and includes local and central organizations and customers. The primary data collected in this study includes data from Öberg's (2008) longitudinal case study of the same firm.

The phenomenon of service infusion is part of the European materials handling business and has been for decades. The rationale for studying BT Industries/TMHE was thus: i) the firm is a market leader, ii) the firm is espousing the strategy of increasing its focus on the service market and growth through industrial services and solutions, and iii) access to key respondents was possible.

The information gathering and analysis process is highly iterative in nature, matches theory and reality, and follows the systematic combining logic described in Dubois and Gadde (2002). This approach takes advantage of the systemic character of both empirical and theoretical models. Thus, both inductive and deductive reasoning was used in the analysis (Pettigrew, 1997).

The research was conducted between 2004 and 2008, in two stages, with additional, complementary data collected in 2009. In total, 21 semi-structured, one-to-two-hour long interviews regarding service infusion took place at the European parent company and at three leading subsidiaries. Respondents were highly knowledgeable informants from different departments, groups, and hierarchical levels, and included service managers, senior service directors, managing directors, and business development managers. In order to better understand strategy-making linked to the service-infusion process, the questions for interviewees were about how strategies, the organization, the market, and the firm's offerings have evolved over the years, and how decisions and strategies are made and communicated across the organization. This reconstruction of historical events (Halinen and Törnroos, 2005) lead to a deeper understanding of the evolution of service-related strategy-making processes. An exploratory, semi-structured approach required that the questions not be explicitly linked to particular tenets of disjointed

incrementalism. Following Gibbert, Ruigrok, and Wicki (2008), key informants reviewed the transcripts and peers made a review of a draft version.

The theory in progress determined the process of simultaneously collecting and analyzing information and decisions about which interviews to conduct and which data to collect next, as the investigation developed (Suddaby, 2006). Several interviewees, independent of each other, emphasized the incremental nature of the ongoing service infusion. The primary and secondary data were grouped into themes, based on Hirschman and Lindblom's (1962) tenets of disjointed incrementalism and then regrouped following a systematic combining process.

### **TOYOTA MATERIALS HANDLING: INCREMENTALISM IN SERVICE INFUSION**

In 2000, Toyota Industries acquired the Swedish materials handling firm BT Industries. At that time, BT Industries was the world's largest manufacturer of warehouse trucks and Toyota Materials Handling Company (TMHC) held the number one position for counterbalanced trucks. Whereas one of Toyota's core competences was its Toyota Production System, BT differentiated itself by having a well-established service network operating through in-house service organizations in most European markets, and worked actively to develop its service portfolio and improve the service processes. Furthermore, while most competitors (including Toyota before the merger with BT) operated through external service partners, BT managers regarded their in-house local service organization as a major advantage in terms of control, efficiency, customer contact, and the implementation of new technology.

BT Industries was founded in 1946 and the first service centers in Sweden were established in 1954. The firm began to build its own international sales and service organization in the 1960s through an acquisition in the UK and the establishment of subsidiaries in Denmark, Germany, and Belgium. Following product commoditization, decreased customer loyalty, and increased

centralization among customers, there was an increased focus on finding new services and solutions, such as rental agreements that included trucks, services, spare parts, and financing. A managing director discusses the increased competition and cost pressure:

“If you measure in real time the price today and the price five years ago, the price has fallen for everything including the service. What they’ve done in manufacturing is to lower the manufacturing cost in order to compete. We have to do the same thing, so what we have to do constantly is to ensure that we can effectively use systems and our skills so our cost doesn’t increase. We’re constantly looking at where we can lower the cost of our operation and then you’re looking for any economy of scale that you can get. Volume is the key; you need lots of volume business and then ensure that you can supply the service to support that business at the lowest cost possible.” (Managing Director)

TMHC and BT maintained autonomous operations with no joint management structure until 2005, when Toyota formally integrated the two firms by creating one single global organization – Toyota Materials Handling Group (TMHG). The creation of this new organization was part of Toyota’s strategy to become the “undisputed No. 1” (Toyota Industries, 2005, p. 17) in the global lift-truck market. However, the two entities continued to use multiple distribution channels; Toyota operated through dealers and BT had wholly-owned sales companies in Europe. Beginning in 2007, there was a stepwise integration at the local level, which resulted in the merging of local service organizations. Today, TMHG is the leading supplier of materials handling equipment and markets itself as providing customers with trouble-free materials-handling operations worldwide. The Group is divided into five geographic regions, and Toyota

Materials Handling Europe (TMHE) manages Europe, with net sales of about \$2.4bn in 2008. TMHE has about 8,000 employees and mainly local subsidiaries manage its sales and services, with more than 4,500 service engineers.

Strategy making is often remedial and about finding strategies to avoid problems such as declining profit margins. Such strategies place an emphasis on the continuous improvements of service operations in order to reduce costs and improve quality. Much of the business development is initiated locally and the offerings and methods are then transferred to other subsidiaries. Major changes are not compatible with the installed base and customer investment, indicating that innovations tend to progress slowly and methodically, without major leaps or bounds. Consequently, service strategies differ only incrementally from previous ones. New customer demands drive the change as a result of consolidation and the outsourcing of service operations. This means that goals are continuously explored and reconsidered, even if this results in few overall deviations from existing service strategies. Two senior managers discuss the incremental nature of strategizing and service infusion:

“Our history has not been a series of dramatic changes at all; it’s been a series of minor adjustments along the way. We change something or introduce something to our portfolio or new method of approach every year.” (Senior Director)

“It’s quite a mature industry and many of our customers, whether we like it or not, view our products as commodities. It’s quite difficult to differentiate the hardware. We have to innovate by using software or soft products. And it’s a mature market; innovations that we make are small and incremental, rather than huge steps.” (Local Rental Manager)

In the early 1980s, the UK subsidiary management team realized that service could be a defining factor in the purchase decision. Thus, having the necessary service technicians and service coverage became a critical issue and the firm developed what is called the “four-hour fix”, which meant that if a customer called the firm, someone would respond within four hours. Today, this is an industry norm. A long-term employee expresses his opinion of the way service has increased in importance for the business over the past decades:

“We ran our service business as a commercial enterprise, and we were running it as a commercial activity well before people realized its potential. For us, service isn’t just about a necessary evil and that ‘somebody has to pay for this. It’s the biggest profit generator we’ve got potentially at a local level... In the late 80s, in the UK specifically, customers wanted to have their product and their service all wrapped up as one package... So we started to work on building packages to give the customer whole life cost: ‘Here’s the machine and here’s what it will cost you to run it for five years’.” (Senior Manager)

The ability to sense changing customer demands and seize new market opportunities has become a key aspect of service infusion, and this requires that available competencies and assets are matched to the demands of customers. Furthermore, coordinating and mutually adjusting the strategies and goals of both customer and TMHE is critical for advanced services such as extensive rental agreements. This means that the pace of the transition process to providing more services differs significantly between markets. For example, customers in the UK and Sweden

demand rental and service agreements more often than customers in many other markets, particularly when compared to the East and South European markets.

In the 1960's, the first major rental customers in Sweden were paper mills. Over the years, the rental concept has developed, although the core idea of rental with maintenance included has remained consistent. Rental offerings have increased gradually, in terms of the number of different offerings and service market share. Both long-and short-term rental markets have grown significantly over the last decade, and in several of the most competitive markets, more than half of all new trucks entail rental agreements. Overall, the materials handling market is characterized by a much higher degree of rental offerings than most other manufacturing industries (cf., Kowalkowski et al., 2009). Customers generally lease a materials handling solution with trucks, financing, maintenance, spare parts, and driver training, thereby having a stipulated and clear cost for the materials handling activities. An employee who has worked for BT/TMHE for over 30 years discusses the rise of rental agreements:

“The UK was the first country in material handling to demand rental for trucks [to quite a large extent]. And that was also back in mid 80s... What happened in the UK was that a lot of our traditional customers ... were starting to demand their services entirely through their 3rd party distributors and they were offering the distributors five-year agreements. So the 3rd party distributor immediately came back and said ‘I want five years use of machines, I don’t want to buy them’. So rental became the issue almost overnight, it seemed... So we had a requirement, we saw an opportunity, we produced the relevant cost-based plan and we then promoted it. And that was the starting point. ... When this started to

materialize, we also realized that service was a defining factor. You could use service as a reason to buy from us, as opposed to from somebody else.”

(Senior Director)

In retrospect, many opportunities, such as rental agreements, have evolved by developing a customized service, standardizing and formalizing it, and then offering it to other customers. Many elements of the prevailing offerings and contractual forms, such as replacement trucks, flexibility, and 24-hour service, have been created in this way. One local service manager explains the importance of continuous interaction and dialogue with customers and how his subsidiary started developing fleet management systems:

“One example from recent years is that, when we talked to customers, they were not able to show what their overhead costs are... They have, for example, ten machines operating, but still no accounting for them. They say that they spent so and so much money on the ten machines, but in reality, they don’t know what they have spent. Therefore, we have developed a fleet management system... to sell to the customers. We can show them, on a monthly basis for each machine, their expenses, used spare parts, breakdowns, operating hours, etc.” (Local Service Manager)

Service managers have expressed their belief that the demand for solutions, such as rental agreements, and additional value-creating services, such as fleet management systems, will continue to grow over time. In general, service-related business development is either customer-driven or technology-driven. For example, demands for 24-hour service and replacement



machines were customer-driven, whereas the mobile business system EASY was internally driven, enabled by new information options and communication technology (ICT) applications at an acceptable cost level.

Since service development has increasingly become synonymous with ICT development, goals and service strategies are also being reconsidered based on new business opportunities enabled by ICT, such as fleet management solutions. TMHE has incrementally increased the number, not only of individual services, but also of overall offerings in which ICT often plays a critical role. Each year, the service market has increased steadily as a contributor not only to total TMHE revenues, but to the overall business.

Leading subsidiaries have often successfully developed services and applications that have been transferred to other subsidiaries. However, a major problem for the transfer of knowledge and services across subsidiaries has been the multinational organizational structure, with its relatively autonomous subsidiaries. The growing number of international agreements means that customers increasingly expect commonality between service activities, regardless of the local market, something that has been impeded by the multinational structure.

In order to increase integration between local and central organizations, managers strive to increase cultural congruence and invest in more central service resources and coordination. The stepwise implementation of standardized information systems has also led to better integration and a formalization of processes. However, the central–local integration has taken a long time, and this indicates that service strategies and organizational changes have differed only incrementally from previous ones. Strategizing still takes place simultaneously in local and central organizations, but overall, integration has resulted in more effective cooperation and coordinated service strategies and an increased understanding of the need for common service strategies and policies, not only between local and central organizational entities, but also

between subsidiaries. For example, local service directors from leading subsidiaries may become mentors for less advanced subsidiaries. In this way, a form of cross-fertilization takes place as less advanced local organizations receive support and managers simultaneously increase their understanding of their situation. Although there is room for further improvement, central and local managers believe that the understanding of one another's roles and business, as well as the role of the central–local interface, has significantly improved in recent years. Instead, as one of the service managers points out, one of the major challenges is keeping pace with technological developments and acquiring the necessary resources:

“I guess that technology is not the biggest problem, rather, it is to make the organization and business models keep pace with it. Take wireless communication as an example. Theoretically, in the future, one could have a business model where the customer pays per ton or running meter and we can follow it in real time. So there are endless opportunities there.”

(Central Service Manager)

In the years prior to the global financial downturn in 2008, a surge in demand for new trucks exceeded the forecasted supply and led to an expansion of production capacity. However, the sharp financial downturn subsequently led to an annual decline in sales of almost 50%. In contrast to previous downturns, the scale of this recession has also had significant repercussions for service sales which are also down (although a clear recovery is taking place at the time of writing), as many customers have no choice but to use fewer trucks, leading to a decreased need for associated services.

## DISCUSSION

In the TMHE case, there are numerous observations of incrementalism in strategy-making processes. The overall service infusion trend is, to a large extent, driven by ad hoc innovations (Kindström and Kowalkowski, 2009) and recombinative innovations, that bundle service and product elements (Grenmyr, Löfberg, and Witell, 2010). These innovations (e.g., 24-hour service, replacement machines and new forms of rental agreements) are often customer driven; they arise from the unpredictable reconfiguration of existing knowledge and resources (Gallouj and Weinstein 1997). Thus, they are a form of non-programmed innovation (Zaltman, Duncan, and Holbek, 1973) that cannot be planned for or managed in a traditional sense. In addition to rigid, formalized service development processes, it is critical that emerging service innovation opportunities are seized in a less formal, ad hoc manner (Kindström and Kowalkowski, 2009) and there is a need for both a suitable organizational structure and a mental mode for incremental change.

Despite service infusion in the materials handling industry, the TMHE case also illustrates that the phenomenon does not imply a unidirectional development towards the provision of more extensive materials handling and logistics solutions per se. In reality, the service infusion phenomenon is multifaceted. For example, over a decade ago, the firm had an in-house organization developing and selling automated warehouse systems. In the mid-1980s, the new division of BT Systems offered automated systems equipment, automated guided vehicles, robot stacker cranes, and warehouse solutions. At the time, managers thought that these offerings could be the future for materials handling. However, they were subsequently considered to be a non-

core business involving substantial business risk in relation to the profits generated, and a drain of time and resources from top management and other business areas.

Regarding market strategy and service offering, the the process of change has taken place cumulatively rather than in major leaps (cf., Gebauer and Fleisch, 2007). This can be attributed not only to a deliberate evolution of market strategies and offerings, but also to path dependence (Teece, Pisano, and Shuen, 1997) and incumbent inertia (Lieberman and Montgomery, 1998). Many changes in TMHE's market strategy, as with the "four-hour fix" and sophisticated rental agreements, have been step-wise alignments with newly discovered customer demands that build on an increasing maturity of both supplier and buyer in terms of service offerings. In the longer term, service infusion has initiated changes in business strategies, culture, and organizational structure. Simplified, TMHE is making a step-by-step transition from a multinational structure with relatively autonomous subsidiaries, to one with tighter integration and coordination.

At times, THME has relied on learning-by-doing and a real-time adjustment of strategy and decision making, which requires the firm to be willing to leave room for failure, and if failure happens, to learn from the experience and be better equipped for the next opportunity (Christensen and Overdorf, 2000). For example, responding to a customer proposal, TMHE decided to explore new service opportunities by offering a comprehensive materials handling solution in which payments were linked to the customer's produced output (i.e., dynamic pricing as opposed to established, fixed-price rental agreements). Even if this particular service failed to be profitable, the firm drew several valuable lessons from the experience and became better prepared for similar opportunities in the future.

In many markets, more than half of all TMHE's trucks delivered have rental agreements. Hence, in many ways, the firm has repositioned itself from being an industrial truck manufacturer to a materials-handling solutions provider. That is, the underlying mental models framing what

the firm does have changed. When changing offerings and revenue models from product sales to rental, competencies are enhanced or destroyed and focal organizational functions are changed. Rental has played a key role as a catalyst for TMHE's service infusion due to its extent and the implications for the service business. Rental sales guarantee service and spare parts sales for several years and make it possible to predict service demand, thereby ensuring a high workforce utilization rate. Furthermore, the process leads to closer customer integration and potentially stronger relationships. However, rental agreements also have challenges, such as having to manage dual revenue models – one traditional model where customers pay per service hour and spare parts purchased, and one where the customers pay a fixed monthly fee, regardless of the service hours and spare parts required. In the materials handling industry studied, in order to stay ahead of competition from downstream actors, such recombination and architectural change is regarded as indispensable for upstream and midstream businesses (Matthyssens, Vandenbempt, and Berghman 2006). However, several service managers expressed frustration about slow progress, pointing to the downside of an incremental approach: it takes time.

### **Disjointed Incrementalism in Service Infusion**

Many characteristics associated with the concept of disjointed incrementalism are apparent in this case study. Interestingly, most of the planned managerial efforts with clear objectives and explicit evaluations take place centrally within product development and other product-related areas, whereas the service business has evolved locally in an incremental manner. However, not all tenet traits proposed by Hirschman and Lindblom (1962) were fully evident, which conforms to Wilson's (2009) view that not all characteristics of disjointed incrementalism are present in all contemporary situations. A brief overview of the case's connection to the tenets is found in Table 2.

Table 2 here.

The findings indicate that the characteristics which seem to be most clearly present are Tenets 1, 3, 7, 8, 9, and 10, whereas Tenets 2, 4, and 5 are the characteristics that are the least prevalent (with Tenet 6 positioned somewhere between the two groups). Thus, service strategies differ only incrementally from previous ones with few deviations from established strategies, strategizing is often successive because many problems are difficult to solve completely, strategies often focus on moving away from problem areas, and an analysis of consequences is necessarily incomplete. Furthermore, even if strategizing was previously more socially fragmented when local units had a higher degree of autonomy and when fewer customers signed international service and rental agreements, strategic decision making still occurs simultaneously at a large number of organizational units.

On the other hand, service strategies are often chosen to achieve (already) set goals, and must relate to overall market strategies (which are relatively fixed). Furthermore, goals and strategies are chosen sequentially more often than simultaneously. A possible reason why not all tenets can be supported fully is that Lindblom's (1959; 1979) concept relates essentially to the public administration context in which it was introduced. In such contexts, the simultaneity of means and ends is widespread and success can thus be more differentiated than in commercial firms, which may lead administrators to choose ends that they already have the means to achieve.

### **Agile Incrementalism**

The observations of incremental changes and strategic actions in the case study section and in Table 2 suggest that the incrementalism in the TMHE case is disjointed, in contrast to logical

incrementalism, where the top management team led by the chief executive remains the architect of strategy, relegating other people to “bit parts” (Quinn, 1978; 1982). Moreover, formulation and implementation in logical incrementalism is not as thoroughly intertwined as in Lindblom’s (1959; 1979) view, but tends to be sequential. The term “logical” can have positivistic and scientific connotations that do not reflect contemporary business situations and the strategizing that takes place. Even if managers believe and assume in the effectiveness of intended, espoused strategy for a fast-paced service-infusion process, the intended strategy will most likely differ from the actual, realized strategy (Mintzberg, 1994). Despite the fact that service infusion challenges stem primarily from internal obstacles, managers often set overambitious strategic objectives, which have negative results on the service operations (Gebauer and Fleisch, 2007). On the other hand, disjointedness may appear unstructured, disorganized, and incoherent. In fact, in mature and moderately dynamic markets, many situations are less complex than in high-velocity markets.

As this case analysis in the materials-handling sector illustrates, the characteristics of the service-infusion process change over time, from being highly disjointed and emerging strategies in practice, to being more structured and systematic, with uniform global service strategies, centralized service development, an increased standardization of systems and services, and better local–central coordination. For example, leading subsidiaries have successfully developed service agreements and rental applications that have been transferred to other subsidiaries via globally linked processes. The service organization is growing continuously and becoming increasingly important from a profitability perspective. Compared to service strategies in the past, today’s strategies are more business orientated. However, whereas the larger subsidiaries usually have well-defined, formalized processes, the smaller subsidiaries may have more ad hoc processes.

Thus, increased managerial experience of service operations and an organizational service culture may enable a comparatively coherent, organized incrementalism. Nevertheless, rapid environmental changes and major external stimuli do occur; for instance, mergers and acquisitions in the industry (Öberg and Holtström, 2006) and the recent financial downturn. Such dynamism requires strategic and organizational flexibility and responsiveness. Therefore, *agile incrementalism* is a term proposed here that more accurately reflects the work of strategizing in this context. The concept emphasizes the flexibility of an organization to deal with ambiguity and uncertainty in a responsive manner, through a process of trial and error. Thus, agile incrementalism involves a high level of maneuverability in order to identify and seize market opportunities.

Agility is vital in order to avoid what Johnson (1988) calls “strategic drift”. Johnson argues that “managers may well see themselves as managing logically incrementally, but that such consciously managed incremental change does not necessarily succeed in keeping pace with environmental change. Indeed it is argued that there is a high risk that it will not” (p. 88). Not only is agility essential in order to respond rapidly to changing customer needs, but also to disruptive exogenous changes, such as the recent economic downturn, in which the materials handling market shrank by almost 50% on annual basis. During such turbulent and volatile circumstances, agility is fundamental to survival (Christopher, 2000). Thus, a successful, agile, strategy-development process resembles disjointed incrementalism, in that it involves continuous modifications, adaptability, calibrating opportunities, and managing intertwining goals. In addition, it also makes explicit the temporal dimension of strategy making, emphasizing the need to both respond to disruptive change and shape the environment (if possible) and seize emerging opportunities (cf., Teece, 2007).



## MANAGERIAL IMPLICATIONS

The service-infusion process is often depicted as a one or two-directional transition from basic after-sales services to process-oriented, relationship-based services and solutions (Kowalkowski et al., 2009; Mathieu, 2001; Oliva and Kallenberg, 2003; Penttinen and Palmer, 2007). However, even if transition paths appear to be straightforward from an aggregated, longitudinal perspective, when reviewing the phenomenon in depth, service infusion seems less clear cut and deterministic, and more explorative, discoverable, reactive, and ambiguous. Managers therefore cannot rely on static assessment mechanisms and should develop monitoring systems to provide feedback from multiple customer-contact points and competitor movements, so as to assess what are in fact slow and incremental changes.

From the perspective of agile incrementalism, this means that managers need to accept and choose a deliberate, designed incompleteness, and should avoid an ill-considered, often accidental incompleteness (Lindblom, 1979). However, managers should also focus on positive aspects of incrementalism. For example, employees accept change much more readily if the transition is gradual and they can get used to it, and incremental changes in strategy allow deliberate sensing and testing of the environment through the appropriate actions (Johnson, 1988). That is, managers must leave room in their strategizing for emerging aspects and elements (Mintzberg, 1994) and find the pockets of service infusion as they appear, and then develop them into a more holistic service-provision mechanism. Service thus begins as a support mechanism for product and spare parts sales, followed by an emergent understanding by managers and executives of service as the long-term value driver. Thus, pricing, delivery, asset and capability investments all vary over time. This transition is not clear-cut and managers must take into account the disjointed forms and aspects of service infusion before reaching an improved total service solution.

Forester's (1984) practical strategy framework suggests that an incremental strategy would seem most appropriate at the high levels of complexity that come from pluralist conflicts. This opposes *both* a rationalist's ideal situation of scientific analysis and a highly politically distorted decision-making situation. For example, continuous tension, albeit not necessarily negative, generally exists between the product and service organizations, and between the central and local organizations. Furthermore, due to exogenous constraints (Matthyssens and Vandenbempt, 2008) as well as to internal incumbent inertia, an incremental approach may be the only viable method for change in many manufacturing firms.

## CONCLUSION

The purpose of this study was to explore the applicability of Lindblom's concept of disjointed incrementalism and "muddling through" in a service infusion context. As products become more commoditized, service infusion is a key element of most manufacturers' strategies. However, as this case analysis in the materials handling sector indicates, managers have implemented strategies, not from a master design plan, but as a reaction to changing demands and client needs. The study thus contributes by extending the existing theory on service strategies, which tends to take a rational planning perspective on service infusion, and highlights the incremental characteristics of the phenomenon and the importance of adjusting strategies and goals as required. In doing so, the present work supports the early work of Lindblom (1959; 1979) and more recent studies, which argue that service infusion evolves gradually (e.g., Gebauer and Fleisch, 2007; Matthyssens and Vandenbempt, 2008). The findings suggest that the challenges of service infusion derive primarily from internal organizational design, perceived cognitive boundaries, and social and cultural factors. This offers a powerful explanation as to why many firms struggle or even fail in their formulated and overly designed service-infusion initiatives.

Secondly, in the early stages of the service-infusion process, an emphasis on the firm's service business is not necessarily an explicit, formulated strategy but rather an emergent one that evolves into a more systematic approach over time, as the service business grows in volume and importance to the manufacturing firm.

Thirdly, this study proposes the term *agile incrementalism* to more accurately describe strategic decision making in service-infusion processes. Agile incrementalism more effectively addresses the challenges encompassed in the service-infusion process, than disjointed or logical incrementalism, as market dynamics require not only strategic and organizational flexibility, but also responsiveness. This also means that strategy making may be disjointed to a large extent, but also have elements of systematic, logical incrementalism, and that the emphasis on flexibility and responsiveness changes over time.

Finally, there is the risk of building too much on what managers advocate (Johnson, 1992). Merely because they espouse the idea of incrementalism, does not imply that they actually behave this way. However, one can also turn the argument around; even if strategy takes incrementalism into account, it may not necessarily be explicit and deliberate. Instead, individual managers and management teams may have excessive confidence in their ability to achieve completeness in analysis and could underestimate the complexities of service management and its interlocking problems with intertwining goals and interdependent solutions (cf., Lindblom, 1979). Therefore, it is often impossible to have clear objectives, perfect information, and a truly comprehensive understanding of the problem. By shifting consciously to a systematic, agile-incrementalism approach with adaptability and deliberate, designed incompleteness, this study suggests it is possible to improve the quality of the strategizing and decision-making processes. This the *modus operandi* should, in turn, smooth the progress of service infusion and make it more agile and therefore viable.

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**Table 1. The ten tenets of disjointed incrementalism (Hirschman and Lindblom, 1962, pp. 215-216).**

<b>Tenet</b>	<b>Description</b>
<b>1</b>	Attempts at understanding are limited to policies [strategies] that differ only incrementally from existing policy [strategy].
<b>2</b>	Instead of simply adjusting means to ends, ends are chosen that are appropriate to available, or nearly available, means.
<b>3</b>	A relatively small number of means (alternative possible policies [strategies]) is considered.
<b>4</b>	Instead of comparing alternative means of policies [strategies] in the light of postulated ends or objectives, alternative ends or objectives are also compared in the light of postulated means and policies [strategies] and the consequences.
<b>5</b>	Ends and means are chosen simultaneously; the choice of means does not follow the choice of ends.
<b>6</b>	Ends are indefinitely explored, reconsidered and discovered, rather than relatively fixed.
<b>7</b>	At any given analytical point ("point" refers to any one individual, group, agency, or institution), analysis and policy [strategy] making are serial or successive; that is, problems are not "solved", but attacked repeatedly.
<b>8</b>	Analysis and policy [strategy] making are remedial: they move <i>away</i> from ills rather than <i>toward</i> known objectives.
<b>9</b>	At any one analytical point, the analysis of consequences is rather incomplete.
<b>10</b>	Analysis and policy [strategy] making are socially fragmented; they occur at a very large number of separate points simultaneously.



**Table 2. Brief case connections to the ten tenets.**

<b>Tenet</b>	<b>Case connection to the tenet</b>
<b>1</b>	The materials handling industry is a mature, relatively conservative industry with incumbent firms dominating. The (service) strategies of TMHE and other actors in the industry have been evolutionary, rather than revolutionary, thus differing only incrementally from previous ones.
<b>2</b>	Strategy formulation and goals are often chosen stepwise and linked to existing service capabilities and the existing resource base, rather than being disruptive. However, service strategies can also be chosen in order to achieve set goals.
<b>3</b>	Under normal circumstances (i.e., moderately dynamic market) there are few deviations from established, “core” strategies. Strategy formulation is shaped by market position and the evolution paths adopted/inherited.
<b>4</b>	The nature of service infusion requires a matching of available competencies and assets (strategies) to the demands (ends) of customers. Interaction, co-production, and continuous means-ends adjustment are key characteristics of many services. Especially in the case of advanced services, coordinating and mutually adjusting the means and ends of both customer and provider become critical. However, service-strategy formulation and possible means must relate/adjust to existing overall market strategies.
<b>5</b>	Ends and means are chosen sequentially rather than simultaneously as the general case – either means follow the choice of ends (e.g., acquiring the resources needed to achieve service market goals) or ends follow the emergence and choice of means (e.g., seizing ad hoc opportunities, such as emerging ICT-based solutions).
<b>6</b>	Ends are relatively fixed through strategic objectives set by top management. However, goals (ends) are, to a large extent, contingent on various exogenous factors. This makes it impossible, or even counterproductive, to attempt to be definite about strategic direction or endeavor. Although the direction is rather fixed, the actual goal of service infusion is relatively loose and will change over time as the firm acquires a progressively greater understanding and becomes more advanced in the provision of services.
<b>7</b>	TMHE works actively with continuous improvements in its service operations. Similarly, the idea behind high-value offerings is not to “solve” a definite problem, but rather to increase profitability and customer loyalty by proactively improving the processes in an incremental manner.
<b>8</b>	Although much analysis is about trying to achieve set goals, in general, strategizing is very much influenced by external factors. In many ways, the service-infusion phenomenon is about moving away from problem areas (i.e., low profitability and increased global competition) rather than towards positions and objectives known beforehand. However, the process has both reactive and proactive elements, and TMHE is more proactive than many other manufacturing firms in this regard.
<b>9</b>	For services in particular, local presence and dialogue with customers is critical. Since many decisions are based on ideas or requests generated by (or in interaction with) customers, the focus (and, consequently, the analysis) is on particular local markets, applications, and customers/segments. Thus, the analysis of consequences is necessarily

incomplete. This is particularly evident in the earlier stages of the service-infusion process, due to an immature understanding of the market opportunities.

- 10 The picture is more multifaceted than that of logical incrementalism. In reality, strategizing and decision-making activities take place simultaneously in different business units at both central and local levels. Managers may have incongruent views and perceptions of feasible corporate strategies, which, in turn, affect the extent of leeway in service strategies. To varying degrees, there is friction between local and central organization and between front- and back-office units. Analysis and strategy formulation not only take place at the top management level; both top-down and bottom-up initiatives are critical as well.
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